

Gas Discharge Tubes

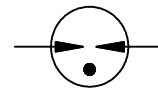
Description

GDT is placed in front of, and in parallel with, sensitive telecom equipment such as power lines, communication lines, signal lines and data transmission lines to help protect them from damage caused by transient surge voltages that may result from lightning strikes and equipment switching operations. These devices do not influence the signal in normal operation. However, in the event of an overvoltage surge, such as a lightning strike, the GDT switches to a low impedance state and diverts the energy away from the sensitive equipment.

Our GDT offer a high level of surge protection, a broad voltage range, low capacitance, and many form factors including new surface mount devices, which makes them suitable for applications such as Main Distribution Frame (MDF) modules, high data-rate telecom applications (e.g. ADSL, VDSL), and surge protection on power lines. Their low capacitance also results in less signal distortion. When used in a coordinated circuit protection solution with PolySwitch devices, they can help equipment manufacturers meet stringent safety regulatory standards.



Electrical symbol



Features

- Excellent response to fast rising transients
- Stable breakdown voltage
- GHz working frequency
- 8/20 μ s Impulse current capability: 20KA
- Non-Radioactive
- Ultra Low capacitance (<1.5pF)
- Lead-free compliant
- RoHS and REACH compliant
- UL 497B Recognized: E465335
- Size: Φ 8mm*6mm
- Storage and operational temperature: -40~+90°C

Applications

- MDF modules
- xDSL equipment
- RF systems
- Antenna
- Base stations
- Repeaters, Modems
- Telephone Interface, Line cards
- Data communication equipment
- Line test equipment
- Power supplies
- Surge protectors, Alarm systems

Part Number Code

A8

Serie:
A8: ϕ 8*6

1

Lead Type:
0=SMD
1=Thrust

A

Modification:
A=Standard
C=Customized

230X

DC Spark-over Voltage:
90X=90V
230X=230V

Electrical Characteristics

GDT Part Number code		DC Spark-over Voltage ^{1) 2)} @100V/S	Impulse Spark-over Voltage		Insulation Resistance ₃₎	Capacitance @1MHz	Life Ratings			
			100V/μS	1KV/μS			Impulse Discharge Current @8/20μS		AC Discharge Current @50Hz 1S	Impulse Life @10/1000μS 100A
			Max	Max	Min	Max	Nominal ±5 times	Max 1 time	Nominal 5 times	Min
DIP	SMD	V	V	V	GΩ	pF	KA	KA	A	Times
A81A75X	A80A75X	75±20%	500	600	1	1.5	20	25	20	300
A81C90X	A80C90X	90±20%	500	600	1	1.5	20	25	20	300
A81A150X	A80A150X	150±20%	500	600	1	1.5	20	25	20	300
A81A230X	A80A230X	230±20%	600	700	1	1.5	20	25	20	300
A81A250X	A80A250X	250±20%	600	700	1	1.5	20	25	20	300
A81A300X	A80A300X	300±20%	750	850	1	1.5	20	25	20	300
A81A350X	A80A350X	350±20%	800	900	1	1.5	20	25	20	300
A81A420X	A80A420X	420±20%	900	1000	1	1.5	20	25	20	300
A81A470X	A80A470X	470±20%	900	1100	1	1.5	20	25	20	300
A81A600X	A80A600X	600±20%	1000	1200	1	1.5	20	25	20	300
A81A800X	A80A800X	800±20%	1400	1600	1	1.5	20	25	20	300
Glow Voltage at 10mA.....					~60V					
Arc Voltage at 1A.....					~10V					
Glow to Arc transition Current.....					~1.0A					
Weight.....					DIP	~1.7g				
					SMD	~1.25g				
Operation and storage temperature.....					-40~+90°C					
Climatic category (IEC 60068-1).....					40/90/21					
Surface treatment.....					DIP	-Nickel Plated				
					SMD	-Matte-tin plated				

¹⁾ At delivery AQL 0.65 level II, DIN ISO 2859

²⁾ In ionized mode

³⁾ Insulation Resistance Measuring Voltage:

75V at DC 25V

90V~150V at DC 50V

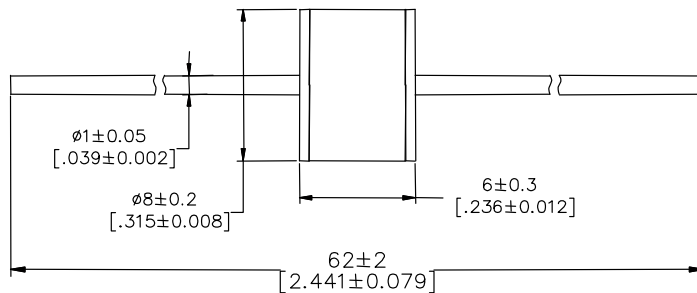
Other at DC 100V

Terms in accordance with ITU-T Rec. K.12, IEC 61643-311, GB/T 9043.

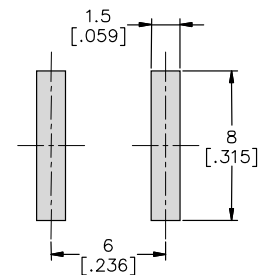
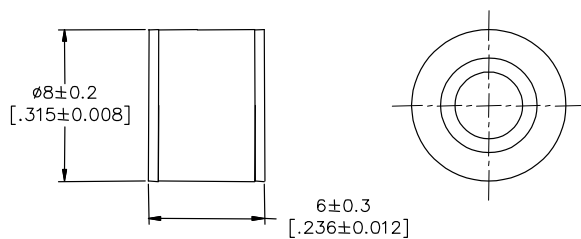
Gas Discharge Tubes

Dimensions (Unit: mm/inch)

DIP Series



SMD Series

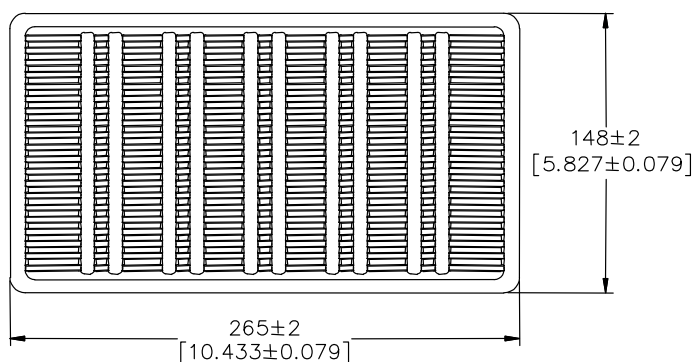


Recommended Soldering Pad Layout

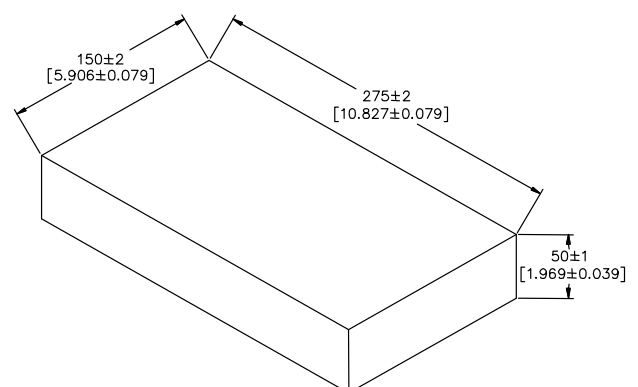
Packaging Information (Unit: mm/inch)

Axial Packaging (Bulk)

Plastic Tray



Inner box



Packaging Quantity:

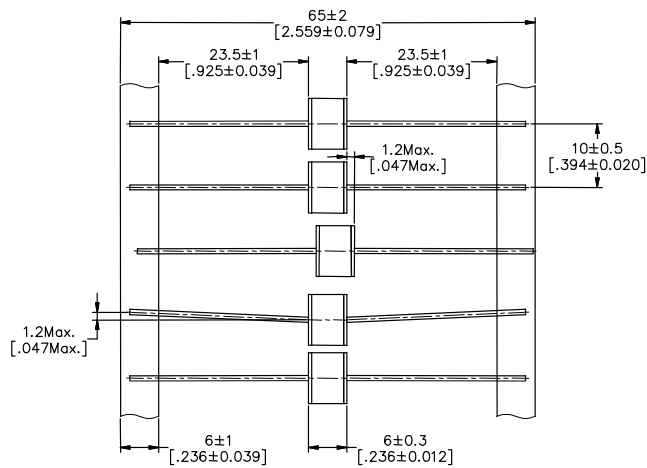
1,00 PCS per Plastic Tray

5 Plastic Trays per inner box

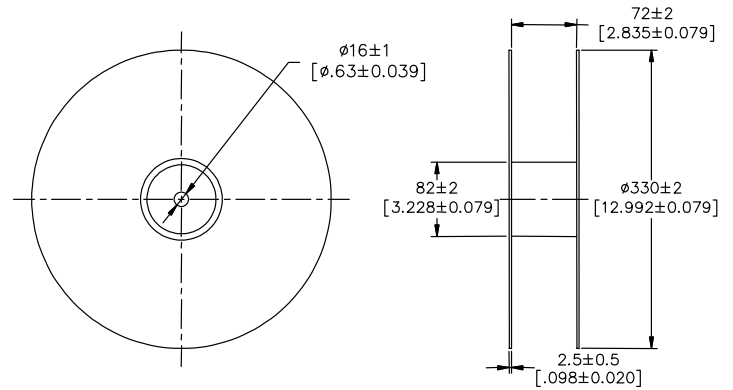
500 PCS per inner box

Axial Packaging (Tape & Reel)

Tape



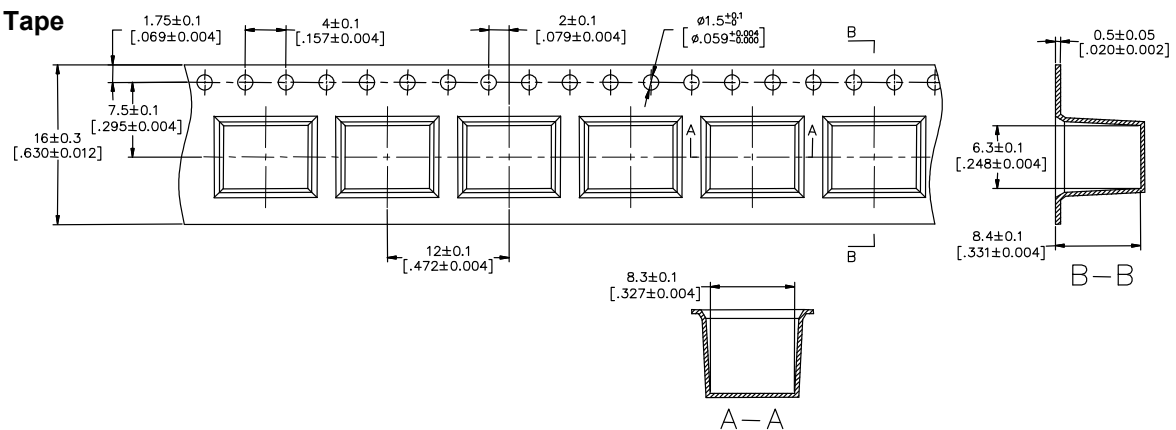
Reel

**Packaging Quantity:**

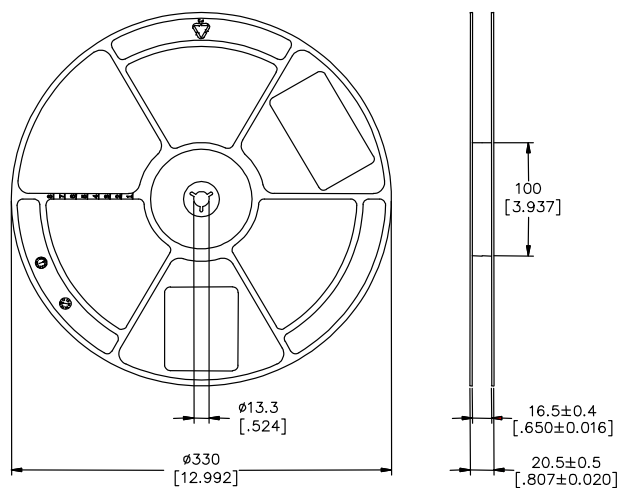
800 PCS per reel

SMD Packaging (Tape & Reel)

Tape



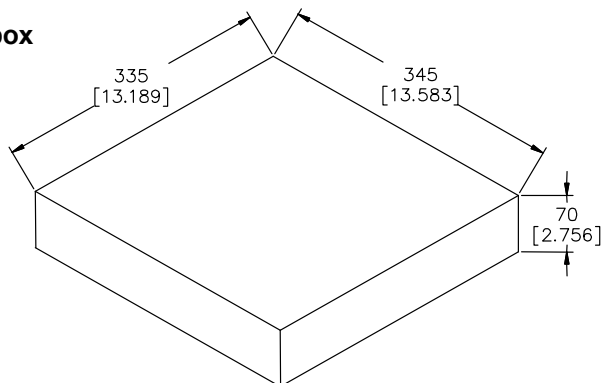
Reel



Direction of Unreeling

Gas Discharge Tubes

Inner box



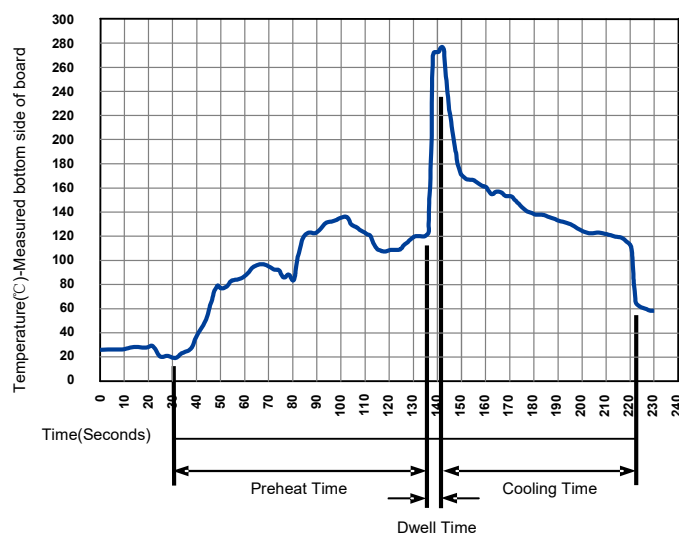
Packaging Quantity:

500 PCS per reel (13")

3 reels per inner box

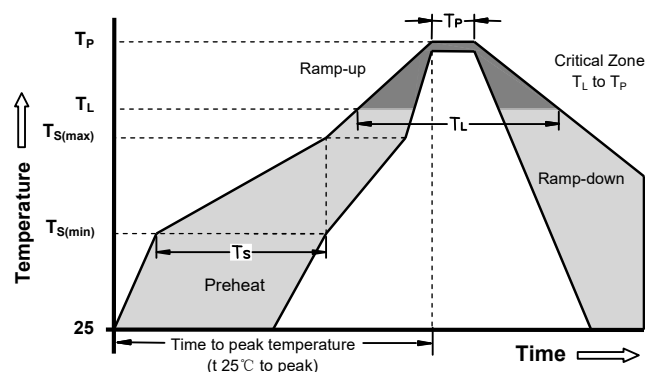
1,500 PCS per inner box

Soldering Parameters - Wave soldering (Thru-Hole Devices)



Wave Soldering Condition		Pb-Free assembly
Preheat	Temperature Min	100°C
	Temperature Max	150°C
	Time (Min to Max)	60-180 Seconds
Solder Pot Temperature		280°C Max
Solder Dwell Time		2-5 Seconds

Soldering Parameters - Reflow Soldering (Surface Mount Devices)



Reflow Condition		Pb - Free assembly
Preheat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t)	60 - 180 Seconds
Average ramp up rate (Liquids Temp T_L) to peak		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		5°C/second max
Reflow	- Temperature (T_L) (Liquids)	217°C
	- Time (min to max) (t)	60 - 150 Seconds
Peak Temperature (T_P)		260 +0/-5°C
Time within 5°C of actual peak Temperature (t_p)		10 - 30 Seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T)		8 minutes Max
Do not exceed		260°C